

a driver circuit including at least one second thin film transistor formed over said substrate for driving said at least one first thin film transistor, at least one of said first thin film transistor comprising:

a semiconductor island over an insulating surface;

source and drain regions formed in the semiconductor island;

a channel forming region in the semiconductor island between the source and drain regions;

E1 a pair of lightly doped regions formed between the channel forming region and the source and drain regions wherein an impurity concentration in the lightly doped regions is smaller than that in the source and drain regions;

a gate electrode formed over the semiconductor island with a gate insulating film interposed therebetween,

wherein said gate electrode comprises at least a first conductive layer and a second conductive layer formed on the first conductive layer, said first conductive layer having a pair of tapered portions, which extend beyond side edges of the second conductive layer,

wherein the pair of lightly doped regions has a pair of first portions which are overlapped by the pair of tapered portions of the first conductive layer, and a pair of second portions which extend beyond side edges of the first conductive layer, and

wherein the impurity concentration in the pair of first portions is smaller than the impurity concentration in the pair of second portions.

E2 17. (Amended) A device according to claim 13, wherein the semiconductor device is one selected from the group consisting of a video camera, a digital camera, a rear-type projector, a front-type projector, a head mount display, a goggle-type display, a navigation system for vehicles, a personal computer, a mobile computer, a cellular phone, and an electronic book.

E3 46. (Amended) A semiconductor device having an active matrix display device, said display device comprising:

at least one first thin film transistor formed over a substrate;

a pixel electrode electrically connected to said first thin film transistor;

a driver circuit including at least one second n-channel thin film transistor and at least one third p-channel thin film transistor formed over said substrate for driving said first thin film transistor,

wherein at least one of said second n-channel thin film transistor comprising:

a first semiconductor island over an insulating surface;

first source and drain regions formed in the first semiconductor island;

a first channel forming region in the semiconductor island between the first source and drain regions;

a pair of lightly doped regions formed between the first channel region and the first source and drain regions,

wherein an impurity concentration in the lightly doped regions is smaller than that in the first source and drain regions;

E3 a first gate electrode formed over the semiconductor island with a gate insulating film interposed therebetween wherein said first gate electrode comprises at least a first conductive layer and a second conductive layer formed on the first conductive layer, said first conductive layer having a pair of tapered portions, which extend beyond side edges of the second conductive layer,

wherein the pair of lightly doped regions has a pair of first portions which are overlapped by the pair of tapered portions of the first conductive layer, and a pair of second portions which extend beyond side edges of the first conductive layer,

wherein at least one of said third p-channel thin film transistor comprising:

a second semiconductor island over an insulating surface;

second source and drain regions formed in the second semiconductor island;

a second channel forming region in the second semiconductor island between the second source and drain regions;

a second gate electrode formed over the second semiconductor island with a gate insulating film interposed therebetween wherein said second gate electrode comprises at least a third conductive layer and a fourth conductive layer formed on the third conductive layer,

wherein side edges of said third conductive layer are coextensive with side
E3 edges of said fourth conductive layer.

50. (Amended) A device according to claim 46, wherein the semiconductor device is one selected from the group consisting of a video camera, a digital camera, a rear-type projector, a front-type projector, a head mount display, a goggle-type display, a navigation system for vehicles, a personal computer, a mobile computer, a cellular phone, and an electronic book.

51. (Amended) A semiconductor device having an active matrix display device, said display device comprising:

E4 at least one first thin film transistor formed over a substrate;

a pixel electrode electrically connected to said first thin film transistor;

a driver circuit including at least one second thin film transistor formed over said substrate for driving said at least one first thin film transistor, at least one of said second thin film transistor comprising:

a semiconductor island over an insulating surface;

source and drain regions formed in the semiconductor island;

a channel forming region in the semiconductor island between the source and drain regions;

a pair of lightly doped regions formed between the channel forming region and the source and drain regions wherein an impurity concentration in the lightly doped regions is smaller than that in the source and drain regions;

a gate electrode formed over the semiconductor island with a gate insulating film interposed therebetween,

wherein said gate electrode comprises at least a first conductive layer and a second conductive layer formed on the first conductive layer, said first conductive layer having a pair of tapered portions, which extend beyond side edges of the second conductive layer,

wherein the pair of lightly doped regions has a pair of first portions which are overlapped by the pair of tapered portions of the first conductive layer, and a pair of second portions which extend beyond side edges of the first conductive layer, and

E4

wherein the impurity concentration in the pair of first portions is smaller than the impurity concentration in the pair of second portions.

55. (Amended) A semiconductor device having an active matrix display device, said display device comprising:

at least one first thin film transistor formed over a substrate;

a pixel electrode electrically connected to said first thin film transistor;

a driver circuit including at least one second thin film transistor formed over said substrate for driving said at least one first thin film transistor, said first thin film transistor comprising:

E5

a semiconductor island over an insulating surface;

source and drain regions formed in the semiconductor island;

a channel forming region in the semiconductor island between the source and drain regions;

a pair of lightly doped regions formed between the channel forming region and the source and drain regions wherein an impurity concentration in the lightly doped regions is smaller than that in the source and drain regions;

a gate electrode formed over the semiconductor island with a gate insulating film interposed therebetween wherein said gate electrode comprises at least a first conductive layer and a second conductive layer formed on the first conductive layer, said first conductive layer having a pair of tapered portions, which extend beyond side edges of the second conductive layer,

wherein the pair of lightly doped regions has a pair of first portions which are overlapped by the pair of tapered portions of the first conductive layer, and a pair of second portions which extend beyond side edges of the first conductive layer, and the concentration of said impurity in the pair of first portions monotonically increases in a direction from said channel region toward the source and drain regions.

59. (Amended) A device according to claim 55, wherein the semiconductor device is one selected from the group consisting of a video camera, a digital camera, a rear-type projector, a front-type projector, a head mount display, a goggle-type display, a navigation system for vehicles, a personal computer, a mobile computer, a cellular phone, and an electronic book.

60. (Amended) A semiconductor device having an active matrix display device, said display device comprising:

at least one first thin film transistor formed over a substrate;

a pixel electrode electrically connected to said first thin film transistor;

a driver circuit including at least one second thin film transistor formed over said substrate for driving said at least one first thin film transistor, said second thin film transistor comprising:

a semiconductor island over an insulating surface;

source and drain regions formed in the semiconductor island;

a channel forming region in the semiconductor island between the source and drain regions;

a pair of lightly doped regions formed between the channel forming region and the source and drain regions wherein an impurity concentration in the lightly doped regions is smaller than that in the source and drain regions;

a gate electrode formed over the semiconductor island with a gate insulating film interposed therebetween wherein said gate electrode comprises at least a first conductive layer and a second conductive layer formed on the first conductive layer, said first conductive layer having a pair of tapered portions, which extend beyond side edges of the second conductive layer,

wherein the pair of lightly doped regions has a pair of first portions which are overlapped by the pair of tapered portions of the first conductive layer, and a pair of second portions which extend beyond side edges of the first conductive layer, and the concentration of said impurity in the pair of first portions monotonically increases in a direction from said channel region toward the source and drain regions.

63. (Amended) A device according to claim 60, wherein the semiconductor device is one selected from the group consisting of a video camera, a digital camera, a rear-type projector, a front-type projector, a head mount display, a goggle-type display, a navigation system for vehicles, a personal computer, a mobile computer, a cellular phone, and an electronic book.

64. (Amended) A semiconductor device having an active matrix display device, said display device comprising:

at least one first thin film transistor formed over a substrate;

a pixel electrode electrically connected to said first thin film transistor;

a driver circuit including at least one second thin film transistor formed over said substrate for driving said at least one first thin film transistor, each of the first and second thin film transistors comprising:

a semiconductor island over an insulating surface;

source and drain regions formed in the semiconductor island;

a channel forming region in the semiconductor island between the source and drain regions;

a pair of lightly doped regions formed between the channel forming region and the source and drain regions wherein an impurity concentration in the lightly doped regions is smaller than that in the source and drain regions;

a gate electrode formed over the semiconductor island with a gate insulating film interposed therebetween wherein said gate electrode comprises at least a first conductive layer and a second conductive layer formed on the first conductive layer, said first conductive layer having a pair of tapered portions, which extend beyond side edges of the second conductive layer,

wherein the pair of lightly doped regions has a pair of first portions which are overlapped by the pair of tapered portions of the first conductive layer, and a pair of second portions which extend beyond side edges of the first conductive layer, and the concentration of said impurity in the pair of first portions monotonically increases in a direction from said channel region toward the source and drain regions.

E8 68. (Amended) A device according to claim 64, wherein the semiconductor device is one selected from the group consisting of a video camera, a digital camera, a rear-type projector, a front-type projector, a head mount display, a goggle-type display, a navigation system for vehicles, a personal computer, a mobile computer, a cellular phone, and an electronic book.

E9 72. (Amended) A device according to claim 55 wherein said active matrix display device is a liquid crystal device.

E10 78. (Amended) A device according to claim 55 wherein said active matrix display device is an electroluminescent display device.

Please add new claim 82 as follows:

E11 --82. A device according to claim 51, wherein the semiconductor device is one selected from the group consisting of a video camera, a digital camera, a rear-type projector, a front-type projector, a head mount display, a goggle-type display, a navigation system for vehicles, a personal computer, a mobile computer, a cellular phone, and an electronic book.--